

Warden *et al.*
Serial No. 10/749,348

Docket No. IVGN 491

REMARKS

The Claimed Invention

Provided is a waveguide for detecting light scattering particles, a method for detecting an analyte using light scattering particles and an apparatus that comprises the waveguide, an illuminating system and a scattered light detection system.

The Pending Claims

Claims 1-48 are pending and under active consideration.

The Restriction Requirement

Applicants thank the Examiner for acknowledgment of the arguments made in the response to restriction requirement and for withdrawing all previous restrictions.

The Office Action

Claims 1-48 are rejected.

Claims 1-13, 15-21, and 23-40 are rejected under 35 U.S.C. § 102(b) as being anticipated by Stimpson *et al.* (US 5,843,651).

Claims 2, 41, and 43-48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stimpson *et al.*

Claims 14 and 42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stimpson *et al.* as applied to claim 1, 41 above, and further in view of Evans (US 6,775,427).

Amendments

No claims have been canceled, added or amended.

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RESPONSE TO REJECTIONS

35 U.S.C. 102(b) Rejection

Claims 1-13, 15-21, and 23-40 are rejected under 35 U.S.C. § 102(b) as being anticipated by Stimpson *et al.* (US 5,843,651). Applicants respectfully traverse this rejection.

The present claims are drawn to a waveguide comprising a first optically transmissive material that forms an interface with a second optically transmissive material, wherein the refractive index of said second material is greater than or equal to the refractive index of said first material, and one or more populations of scattered light detectable particles of a dimension between about 1 and about 500 nm inclusive that are bound to an analyte, wherein said particles are distributed in said second material such that said particles are illuminated by non-evanescent light and produce detectable scattered light in said waveguide.

According to the present Office Action, "Stimpson *et al.* disclose a waveguide 30 [fig. 2A] comprising [a] first optically transmissive material 32 [fig. 2C] that forms an interface with a second optically transmissive material 46, wherein the refractive index of the second material is greater than or equal to the refractive index of the first material [column 8, lines 39-49]; and [o]ne or more populations of scattered light detectable particles of a dimension between about 1 and about 500 nm [column 14, lines 15-29] inclusive that are bound to an analyte [column 4, lines 13-24], wherein the particles are distributed in the second material such that the particles are illuminated by non-evanescent light 54 and produce detectable scattered light in the wave guide." Applicants respectfully disagree.

Stimpson *et al.* requires that "the refractive index of the waveguide must be greater than the refractive index of the sample fluid, as is known in the art for effecting total internal reflectance. For an aqueous sample solution, the refractive index, n , is about 1.33, so the waveguide typically has a refractive index of greater than 1.35, usually 1.5 or more." Column 8, lines 41-49. In other words, the "second material" (i.e. material in which the particles are distributed) in Stimpson *must* have a refractive index that is less than the refractive index of the material with which it interfaces. Conversely, the present claims are directed to a waveguide wherein the particles are distributed in a material that has a refractive index that is greater than the material with which it interfaces. Accordingly, the waveguide described in Stimpson *et al.* is clearly different from the presently claimed invention. Stimpson *et al.* does not teach or suggest all of the elements of the claimed invention and therefore is not anticipatory under 35 U.S.C. §

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102(b). In view of the above remarks, withdrawal of all rejections over Stimpson *et al.* under 35 U.S.C. § 102(b) is respectfully requested.

35 U.S.C. § 103(a) Rejection

Claims 2, 41, and 43-48 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stimpson *et al.* Claims 14 and 42 are also rejected under 35 U.S.C. § 103(a) as being unpatentable over Stimpson *et al.* as applied to claim 1, 41 above, and further in view of Evans (US 6,775,427). Applicants respectfully traverse this rejection.

According to § 2142 of the M.P.E.P., the following three criteria must be met to establish a *prima facie* case of obviousness: (1) there must be motivation to modify the reference or combine teachings; (2) there must be a reasonable expectation of success; and (3) the reference (or combination thereof) must teach or suggest all the claim limitations.

As mentioned above, Stimpson *et al.* describes a waveguide in which the sample is distributed in a material that has a refractive index that is less than the refractive index of the material with which it interfaces. Conversely, the present claims are directed to a waveguide wherein the particles are distributed in a material that has a refractive index that is greater than the material with which it interfaces. Accordingly, Stimpson *et al.* falls to teach all of the claim limitations as required to establish a *prima facie* case of obviousness.

Furthermore, Stimpson *et al.* does not provide a reasonable expectation of success or any motivation to modify the sample medium and material with which it interfaces such that the refractive index relationship between the two is reversed. In fact, by stating that the refractive index relationship between materials must be that way, as is known in the art, a skilled artisan would likely be deterred from attempting to distribute particles in a material in which the refractive index is greater than the material with which it interfaces. Accordingly, Stimpson *et al.* effectively teaches away from the present invention. Furthermore, nowhere in Evans *et al.* nor any other cited reference is there motivation to alter what must be present in the waveguide of Stimpson *et al.*

Accordingly, Applicants respectfully submit that the obviousness rejections over Stimpson *et al.*, and Stimpson *et al.* In view of Evans *et al.* are improper and should be withdrawn.

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CONCLUSION

In view of the above remarks, it is submitted that this application is now ready for allowance. Early notice to this effect is solicited. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned agent at (541) 335-0165.

Respectfully submitted,

Date: 6/26/06


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